

PAGE

Appl. No. 09/920,800

February 10, 2004

REMARKS/ARGUMENTS

Reconsideration and withdrawal of the outstanding grounds of rejection are respectfully requested in light of the above amendments and the remarks that follow.

The Examiner has rejected claims 1 and 5 under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103 as obvious over Jones '325. The rationale for the Examiner's rejections is set forth on pages 2 and 3 of the Official Action.

Reconsideration of this ground of rejection is requested. In this regard, applicant has amended claim 1 to further clarify the process by stating that the effluent stream contains the oxides of nitrogen NO and NO₂ and that these oxides of nitrogen are converted to nitric acid by the addition of hydrogen peroxide in sufficient amounts to generate the nitric acid by the equations recited in the claim.

Jones '325 is concerned primarily with the conversion of nitric oxide NO to nitrogen dioxide NO₂. This conversion of NO to NO₂ is accomplished by contacting an NO containing gas stream with an injection gas which includes a peroxy initiator which, as the Examiner correctly points out, may include hydrogen peroxide. In other words, the introduction of the peroxy initiator is done solely for the purpose of converting NO to NO₂, and the '325 disclosure is replete with references to this conversion. After the conversion takes place, the '325 patent describes a further process step. This additional step seeks to remove remaining NO_x in an absorption section by means of a particulate sorbent. Note, for example, the description in column 3 where it is stated:

PAGE

Appl. No. 09/920,800

February 10, 2004

The flue gas passes through bags 28 (only one is shown) in the baghouse where the NO_x and SO_x, along with entrained materials including the particulate sorbent are removed. In the illustrated embodiment, clean flue gas is discharged into the atmosphere from the baghouse via a conduit 30 leading to a flue gas stack.

Thus, the claimed process of converting oxides of nitrogen to nitric acid (HNO₃) is nowhere disclosed or even remotely suggested in the '325 patent. Accordingly, the rejection of independent claim 1 as well as dependent claim 5 under 102 and/or 103 is improper and should now be withdrawn.

The Examiner has rejected claim 3 under 35 U.S.C. 103 as unpatentable over Jones '325 and further in view of Jones '298. Since the Jones '298 reference fails to remedy the deficiencies of the Jones '325 patent, this rejection is also improper and should now be withdrawn.

The Examiner has rejected claims 2, 4, 8, 10 and 11 under 35 U.S.C. 103 as unpatentable over Jones '325 and further in view of Dayen. According to the Examiner, it would have been obvious from Dayen to add potassium hydroxide in particulate form to the effluent stream in Jones '325 after contact with the peroxy initiator.

While Dayen does disclose the formation of potassium compounds in a method for removing sulfur oxides and nitrogen oxides from combustion gases, there is no disclosure or suggestion in Dayen of first converting oxides of nitrogen to nitric acid as required in independent claim 1 from which claims 2 and 4 depend. In other words, applicant not only generates commercial nitric acid but, if desired, may continue the treatment of the

PAGE

Appl. No. 09/920,800

February 10, 2004

effluent stream to generate potassium nitrate. Dayen, with or without the disclosure in Jones '325, does not suggest the claimed process.

Independent claim 8 has been amended in a manner similar to independent claim 1 but also specifies that the effluent stream is generated by a land-based gas turbine. In addition, claim 8 includes limitations similar to those in both claims 1 and 2 and, for the same reasons presented hereinabove, is not rendered obvious by the combination of references relied upon by the Examiner. Insofar as claims 10 and 11 depend from claim 8, those claims are patentable along with claim 8.

The Examiner has rejected claims 6, 7 and 9 under 35 U.S.C. 103 as unpatentable over Jones '325 in view of Jones '298 and further in view of Dayen. Independent claim 6 has been amended in a manner similar to claims 1 and 8, and represents essentially the combination of claims 1, 2 and 4. Thus, the arguments presented above with respect to independent claims 1 and 2 are equally applicable here and thus, claims 6 and 7 are also patentable over the applied prior art.

Claim 9 depends from claim 8 and is patentable also for the reasons presented hereinabove.

Finally, the Examiner has rejected claims 1-11 under 35 U.S.C. 112, second paragraph, as indefinite. The Examiner has objected to the use of the phrase "NO and/or NO₂" since it leaves open the possibility that one or the other but not necessarily both compounds are present, while the chemical reactions recited in the claims assume the presence of both.

PAGE

Appl. No. 09/920,800

February 10, 2004

Applicant has amended each of the independent claims to remove the alternative possibility, so that they claims now positively require the presence of both NO and NO₂.

It is respectfully submitted that all of the claims are now in condition for allowance, and early passage to issue is requested. In the event, however, any small matters remain outstanding, the Examiner is encouraged to telephone the undersigned so that the prosecution of this application can be expeditiously concluded.

Respectfully submitted,

NIXON & VANDERHYE P.C.

By:



Michael J. Keenan

Reg. No. 32,106

MJK:ljb

1100 North Glebe Road, 8th Floor
Arlington, VA 22201-4714
Telephone: (703) 816-4000
Facsimile: (703) 816-4100